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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,133	10/26/2005	Gerrit H. Verwoerd	VERWOERD I PCT	1283
25889 7590 01/05/2010 COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576				
EXAMINER				
LEE, GILBERT Y				
ART UNIT		PAPER NUMBER		
3676				
MAIL DATE		DELIVERY MODE		
01/05/2010		PAPER		

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/550,133
Filing Date: October 26, 2005
Appellant(s): VERWOERD, GERRIT H.

Elizabeth Collard Richter
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/10/09 appealing from the Office action mailed 5/12/09.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

1,391,410	BOSCH	04-1964
2,859,061	REID	9-1954
3,642,248	BENWARE	2-1972

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 8-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to claim 8 recites "an interior surface facing the groove that is upwardly inclined from a wall of the groove" and "said sealing rings having a shoulder corresponding to a shape of the inclined surface of the lug". The orientation of the combination has not previously been disclosed in the current application. It seems that the applicant has taken the structure shown in Figs. 1c and 4a-4c to amend claim 8; however, Fig. 1a clearly shows the combination being annular. The shape of the shoulder and lug has not previously been mentioned. Although Figures 4a-4c might show the four elements having corresponding shaped, it is unclear whether the shape is due to installation/stress or if the shapes are actually preformed.

Claims 9-13 are rejected for depending on a rejected claim.

2. Claims 8-13, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch (FR Patent No. 1,391,410) in view of Reid (US Patent No. 2,859,061) and Benware (US Patent No. 3,642,248).

Regarding claim 8, the Bosch reference, as best understood discloses a combination valve (Page 2, Lines 70-83), piston (2), cylinder (1) and annular gap seal

(Fig. 4), said annular gap seal blocking a flow of fluid from a high-pressure side to a low-pressure side of the valve in a blocked position (Page 2, Lines 70-83), the valve having the cylinder which the fluid may flow through and in which the piston is axially displaceable (Fig. 4), and an annular gap (e.g. gap between 1 and 2) between the piston and the cylinder (Fig. 4) being sealable in the blocked position using the annular gap seal (Fig. 4), which lies in a peripheral groove (Fig. 4), two sealing rings (23 and 24) positioned mirror-symmetrically (Fig. 4) and a sealing surface (A) of a first sealing ring (Fig. 4),

a sealing shoulder (B) of the first sealing ring (Fig. 4), and a sealing lip (C). Note that the seal of the Bosch reference is capable of blocking flow of a fluid (Page 2, Lines 70-83).

However, the Bosch reference fails to explicitly disclose the groove being in the cylinder; a peripheral lug on both sides, projecting into the groove; the lug having an underside that is upwardly inclined from a wall of the groove toward the middle plane of the groove; and the sealing rings having a shoulder corresponding to a shape of the inclined surface of the lug and contacting the lug in an area where the lug is inclined.

The Reid reference, a seal used with a piston, discloses making the groove in the piston or the cylinder (Figs. 17 and 22).

It would have been obvious to one of ordinary skill in the art at the time of the invention to place the groove in the cylinder instead of the piston in the Bosch reference in view of the teachings of the Reid reference as a matter of mechanical expedience and to reduce manufacturing costs.

The Benware reference, a sealing mechanism, discloses providing peripheral lugs (e.g. including 145, 147, 149 and 146, 148, 150) that project toward a middle plane of the groove (Fig. 6) to the groove, the lug having an underside that is upwardly inclined from a wall of the groove toward the middle plane of the groove (Fig. 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide peripheral lugs to the Bosch reference in view of the teachings of the Benware reference in order to lock the seal in the groove (Abstract).

It would have been an obvious matter of mechanical expedience to make the lugs and shoulders of corresponding shapes and make the lug with inclined surfaces. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. It would have been obvious to one of ordinary skill in the art to make the lugs and shoulders of the Bosch reference of corresponding shapes and to provide the lugs with inclined surfaces in order to limit movement of the seal.

Regarding claim 9, the Bosch reference, as modified in claim 8, discloses the sealing rings having a C-profile (Fig. 4).

Regarding claim 10, the Bosch reference, as modified in claim 8, discloses the annular gap seal (Fig. 4). Note that the annular seal of the Bosch reference is **capable of** being pretensioned.

Regarding claim 11, the Bosch reference, as modified in claim 8, discloses a stabilizing element (17) which may be laid in the direction of the groove with the sealing rings (Fig. 4).

Regarding claim 12, the Bosch reference, as modified in claim 8, discloses the stabilizing element being a coiled spring (Fig. 4). Note that the spring of the Bosch reference is capable of being inserted in a torus shape.

Regarding claim 13, the Bosch reference, as modified in claim 11, discloses the annular gap seal (Fig. 4). Note that the annular seal of the Bosch reference is capable of being pre-tensioned using the stabilizing element.

(10) Response to Argument

The rejection of claim 8-13 under 35 USC §112 should be reversed

Appellant argues that the specific orientation of the sealing shoulder being below the sealing lip, and having a lower edge that is pressed against the groove base, defines an orientation where the groove base is at the bottom and the sealing lip is at the top.

This argument is not persuasive since the seal, the seal groove, and the peripheral lugs are annular. The Appellant uses the structure shown in Figs. 1c and 4a-4c for this limitation; however, the same interior surface is also downwardly inclined from a wall of the groove when seen as a whole in Fig. 1. Since the seal and its environment are annular, the claim language should be rewritten to read "radially outwardly" or something similar.

Appellant further argues that it is still possible to define a top and a bottom orientation in an annular configuration.

This argument is not persuasive because, as stated above, the interior surface that is upwardly inclined at the bottom of Fig. 1 is downwardly inclined at the top of Fig.

1. The claim language should be rewritten to read "radially outwardly" or something similar.

The Rejection of claim 8-13 under 35 USC 103 should be reversed

Appellant makes a piecemeal analysis of the Bosch, Reid and Benware references.

In response to Appellant's piecemeal analysis of the references, it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.

Appellant further argues that the groove in Reid is not a peripheral groove, but rather is embedded completely within the components of the device.

This argument is not persuasive because Fig. 17 of the Reid reference clearly shows the groove being on the outer periphery of member 6 and Fig. 22 clearly shows the groove being on the inner periphery of member 56.

Appellant further argues that the Benware reference fails to seal within the groove, and therefore will not function.

This argument is not persuasive since the Benware reference is only being used as a reference for teaching the addition of lugs to a groove. The seal of the Benware reference is not replacing the seal of the Bosch reference.

Appellant further argues that the Reid reference requires an O-ring to seal properly and it will not be possible to seal properly with the seal of Reid, if the O-ring is replaced by a spring taught by Benware.

This argument is not persuasive because the Benware reference is only being used as a reference for teaching the addition of lugs to a groove. The seal of the Benware reference is not being used.

Appellant further argues that combining lugs of Benware with a groove of Reid in the device of Bosch would not lead to the present invention.

This argument is not persuasive because Fig. 17 of the Reid reference clearly shows the groove being on the outer periphery of member 6 and Fig. 22 clearly shows the groove being on the inner periphery of member 56.

Appellant further argues that the inclined lugs of the present invention causes the groove to form a conical shape rather than the cylindrical shape shown in Benware.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a conical shape) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, as rejected above, it would have been obvious to make the lugs inclined to correspond to the incline of the seal rings in the modified Bosch reference in order to limit movement of the seal.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

gyl

/Thomas B Will/

Supervisory Patent Examiner, Art Unit 3671

Conferees:

Thomas Will /tbw/

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